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# FIG.1

```

1  ATGCTAACCTTCCCGTTGAGCCCGAGTTCGAGCAGGCCTACAAGGAGCTTGCGTCGACC
   *****
2  ATGCTAACCTTCCCGTTGAGCCCGAGTTCGAGCAGGCCTACAAGGAGCTTGCGTCGACC
61  CTCGAGAACTCCACCCTCTTTGAGCAGCACCTGAATACCGACGGGCTCTCCAGGTCGTC
   *****
61  CTCGAGAACTCCACCCTCTTTGAGCAGCACCTGAATACCGACGGGCTCTCCAGGTCGTC
121  TCCGTTCCCGAGCGCGTTATCCAGTTCCGTGTCGTTTGGGAGAACGACAAGGGCGAGGTT
   *****
121  TCCGTTCCCGAGCGCGTTATCCAGTTCCGTGTCGTTTGGGAGAACGACAAGGGCGAGGTT
181  CAGATCAACCGCGGTTACCGTGTTCAAGTCAACTCCGCTCTCGGTCCCTACAAGGGTGGT
   *****
181  CAGATCAACCGCGGTTACCGTGTTCAAGTCAACTCCGCTCTCGGTCCCTACAAGGGTGGT
241  CTCCGTTTCCACCCCTCCGTCAACCTTTCTATCCTGAAGTTCCTTGGCTTCGAGCAGATC
   *****
241  CTCCGTTTCCACCCCTCCGTCAACCTTTCTATCCTGAAGTTCCTTGGCTTCGAGCAGATC
301  TTCAAAAATGCTCTCACAGGAC[ ← Splicing site
   *****
301  TTCAAAAATGCTCTCACAGGACGTGCGTAACCGTTACTTCATTGGATGTTTGCCAAGAGT
323  —————→ ]TAAACATGGGTGGTGGCAAGGGTGGTTCCGACTTCGACCCCAAGG
   *****
361  ACTAATTGGTATTAGTAAACATGGGTGGTGGCAAGGGTGGTTCCGACTTCGACCCCAAGG
368  GCAAGTCTGACTCTGAAATTTCGTCGCTTCTGTACCGCTTTCATGACTGAGCTCTGCAAGC
   *****
421  GCAAGTCTGACTCTGAAATTTCGTCGCTTCTGTACCGCTTTCATGACTGAGCTCTGCAAGC
428  ACATCGGCGCGGACACTGACCTTCCCGCTGGTGATATCGGTGTTACTGGCCGTGAGGTTG
   *****
481  ACATCGGCGCGGACACTGACCTTCCCGCTGGTGATATCGGTGTTACTGGCCGTGAGGTTG
488  GTTTCCTTTTTCGGCCAGTACCGCAGGATCCGCAACCAGTGGGAGGGTGTCTCACTGGCA
   *****
541  GTTTCCTTTTTCGGCCAGTACCGCAGGATCCGCAACCAGTGGGAGGGTGTCTCACTGGCA
548  AGGGTGGCAGCTGGGGTGGTAGCTTGATCCGCCCTGAAGCCACTGGATACGGTGTGTCT
   *****
601  AGGGTGGCAGCTGGGGTGGTAGCTTGATCCGCCCTGAAGCCACTGGATACGGTGTGTCT
608  ACTACGTTACGACATGATCAAGCACGTTACCGGTGGAAGGAGTCCTTCGCAGGCAAGC
   *****
661  ACTACGTTACGACATGATCAAGCACGTTACCGGTGGAAGGAGTCCTTCGCAGGCAAGC

```

## FIG.2

```

668 GTGTCGCCATCTCCGGCTCCGGTAACGTTGCCCAGTACGCCGCTCTCAAGGTCATCGAGC
*****
721 GTGTCGCCATCTCCGGCTCCGGTAACGTTGCCCAGTACGCCGCTCTCAAGGTCATCGAGC
*****
728 TCGGTGGTTCCGTTGTCTCCCTTTCCGACTCCAAGGGCTCTCTCATTGTCAAGGATGAGT
*****
781 TCGGTGGTTCCGTTGTCTCCCTTTCCGACTCCAAGGGCTCTCTCATTGTCAAGGATGAGT
*****
788 CCGCTTCTTTACCCCTGAAGAGATCGCCCTCATTGCCGACCTCAAGGTTGCCCACAAGC
*****
841 CCGCTTCTTTACCCCTGAAGAGATCGCCCTCATTGCCGACCTCAAGGTTGCCCACAAGC
*****
848 AACTCTCCGAGCTCGCCACCTCCTCCGCTTTGCGCCGCAAGTTCACCTACATCCCCGATG
*****
901 AACTCTCCGAGCTCGCCACCTCCTCCGCTTTGCGCCGCAAGTTCACCTACATCCCCGATG
*****
908 CTCGCCCTTGGACCAACATTCCCGGCAAGTTCGAGGTTGCTCTCCCTTCTGCCACTCAGA
*****
961 CTCGCCCTTGGACCAACATTCCCGGCAAGTTCGAGGTTGCTCTCCCTTCTGCCACTCAGA
*****
968 ACGAAGTCTCCGGCGAGGAAGCCGAGCACCTCATCAAGTCCGGTGTCCGCTATATTGCTG
*****
1021 ACGAAGTCTCCGGCGAGGAAGCCGAGCACCTCATCAAGTCCGGTGTCCGCTATATTGCTG
*****
1028 AGGGTTCCAACATGGGTTGCACCCAGGCCGCCATCGACATCTTTGAGGCTCACCGCAACG
*****
1081 AGGGTTCCAACATGGGTTGCACCCAGGCCGCCATCGACATCTTTGAGGCTCACCGCAACG
*****
1088 CCAACCCCGGCGATGCCATCTGGTACGCCCTGGTAAAGCCGCCAACGCTGGTGGTGTCTG
*****
1141 CCAACCCCGGCGATGCCATCTGGTACGCCCTGGTAAAGCCGCCAACGCTGGTGGTGTCTG
*****
1148 CCGTCTCTGGTCTTGAGATGGCTCAGAACTCTGCTCGTCTCTCCTGGACATCCGAGGAG
*****
1201 CCGTCTCTGGTCTTGAGATGGCTCAGAACTCTGCTCGTCTCTCCTGGACATCCGAGGAG
*****
1208 TCGATGCTCGCCTCAAGGGCATCATGGAGGACTGCTTCAAGAACGGTCTCGAGACTGCTC
*****
1261 TCGATGCTCGCCTCAAGGGCATCATGGAGGACTGCTTCAAGAACGGTCTCGAGACTGCTC
*****
1268 AGAAGTTTCGCTACTCCTGCCAAGGGCGTCCTGCCTTCCCTCGTCACCGGTTCCAACATTG
*****
1321 AGAAGTTTCGCTACTCCTGCCAAGGGCGTCCTGCCTTCCCTCGTCACCGGTTCCAACATTG
*****
1328 CCGGTTTCACCAAGGTCGCCGAGGCCATGAAGGACCAGGGTGACTGGTGGTGA
*****
1381 CCGGTTTCACCAAGGTCGCCGAGGCCATGAAGGACCAGGGTGACTGGTGGTGA
*****

```

FIG.3

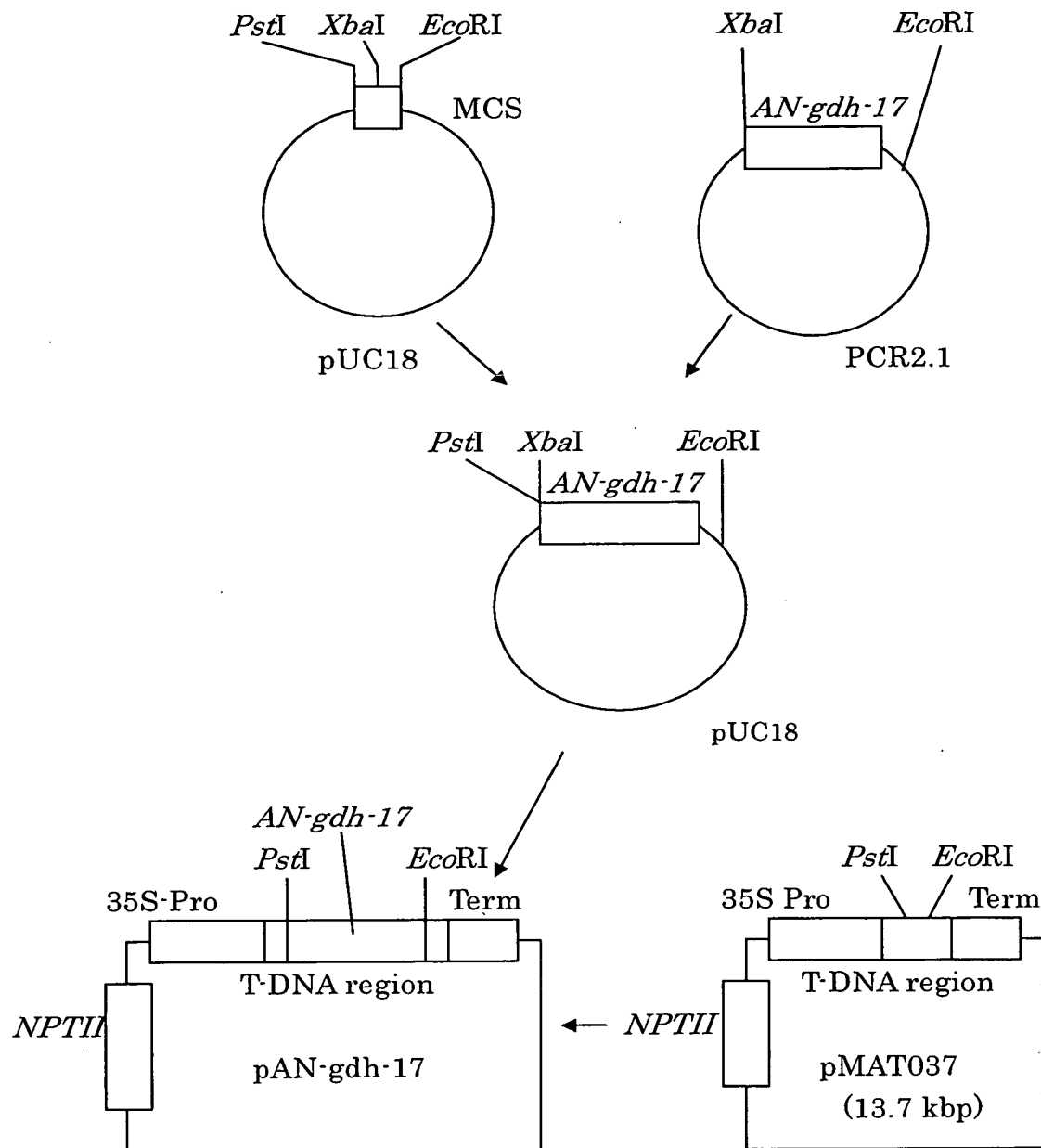
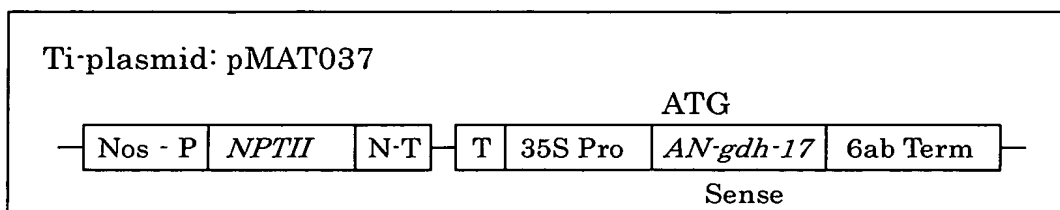


FIG.4



Ti - plasmid: pIG121-Hm (35S promoter is used)

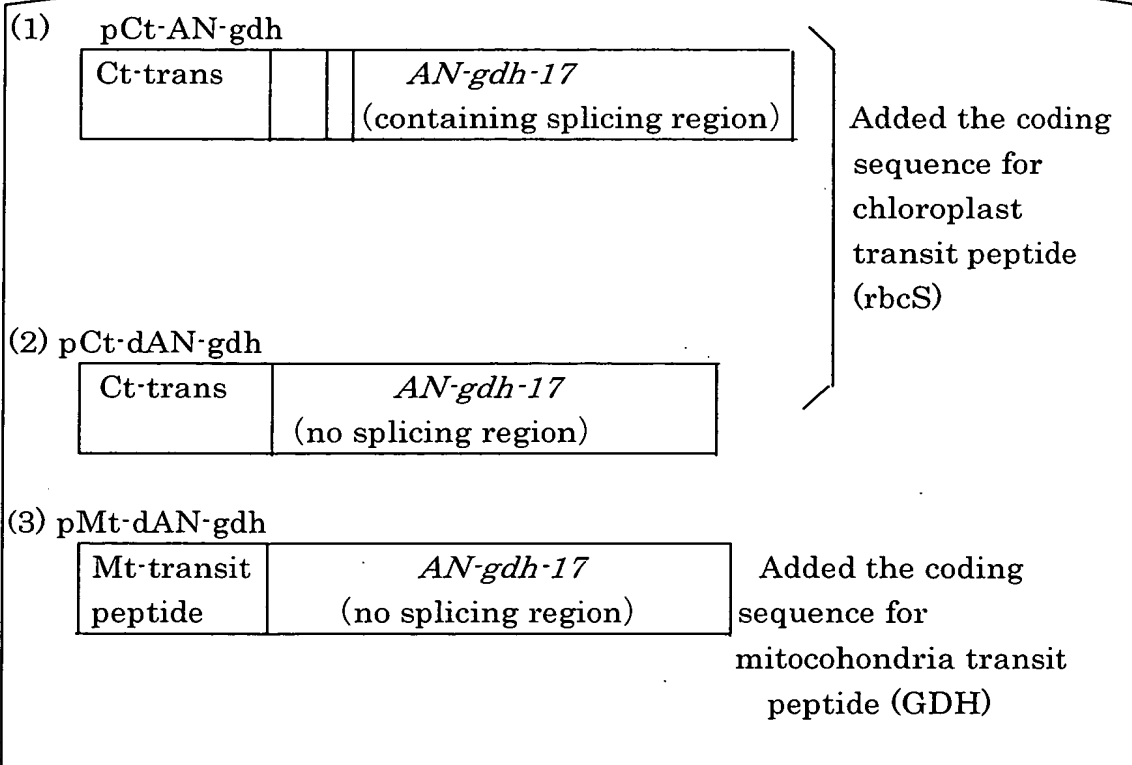
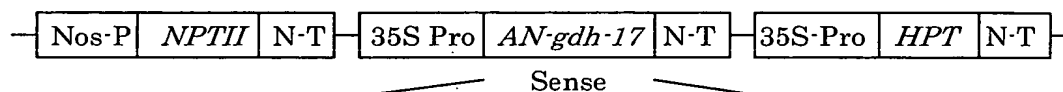


FIG.5

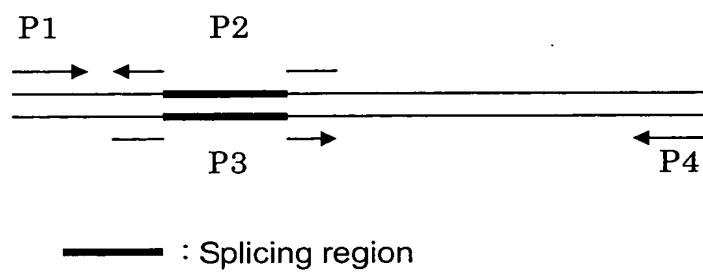


FIG.6

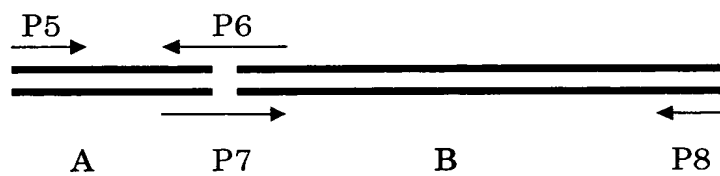
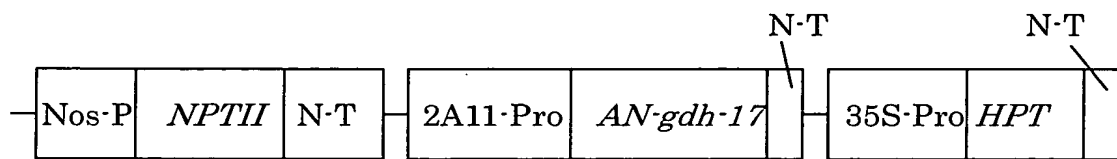


FIG.7



(1) p2ACt-dAN-gdh

Ct-transit peptide	<i>AN-gdh-17</i> (no splicing region)
-----------------------	--

Added the coding  
sequence for chloroplast  
transit peptide (rbcS)

(2) p2AMt-dAN-gdh

Mt-transit peptide	<i>AN-gdh-17</i> (no splicing region)
-----------------------	--

Added the coding  
sequence for  
mitochondria transit  
peptide (GDH)

FIG.8

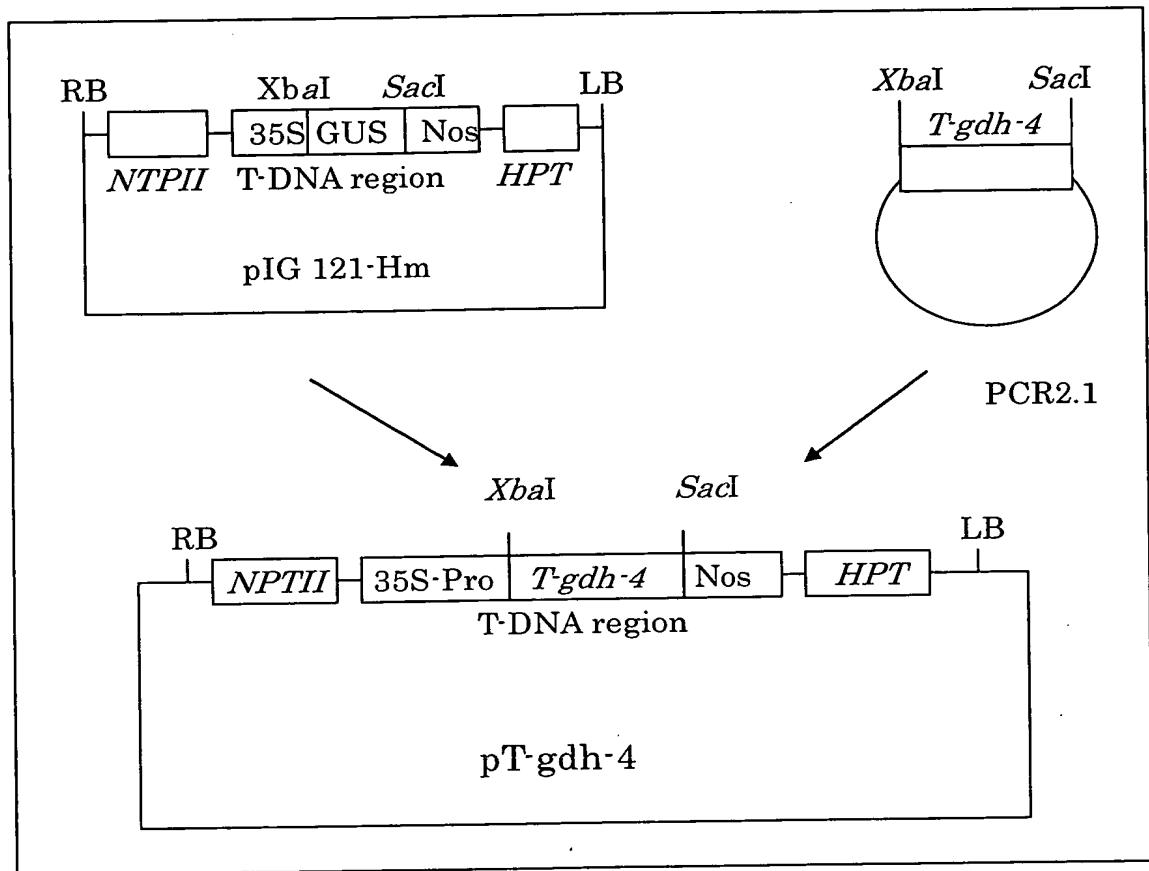




FIG.9

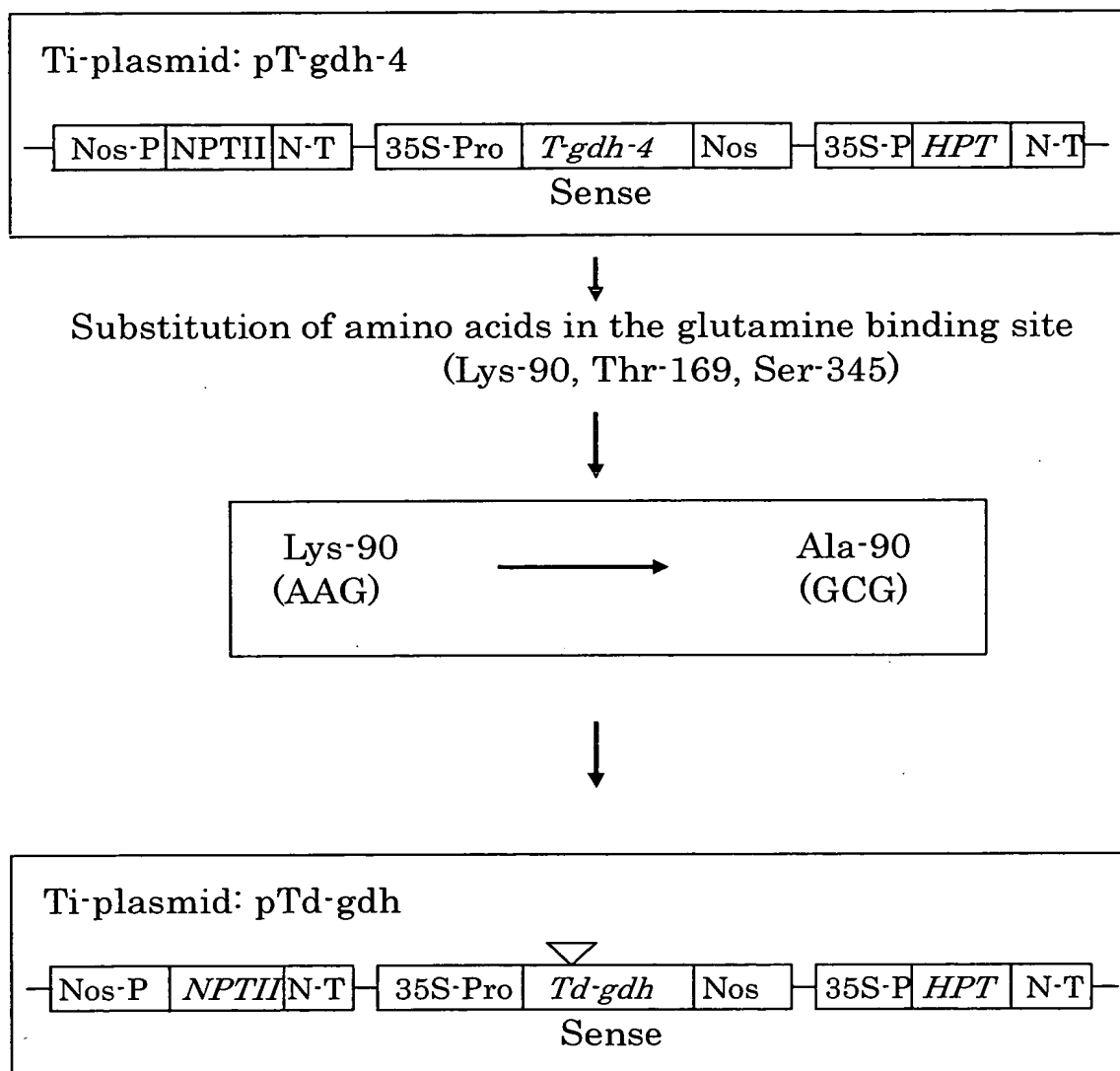
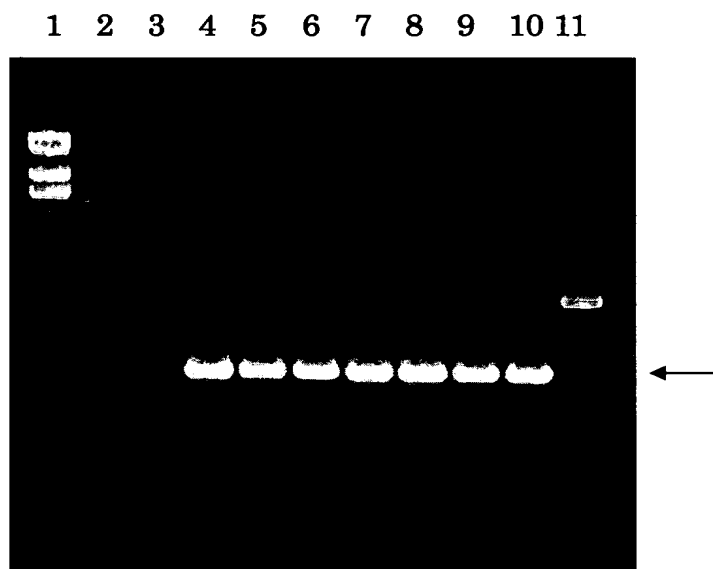


FIG.10



1.  $\gamma$ -HindIII marker
2. Untransformed tomato no. 1
3. Untransformed tomato no. 2
4. pMAT037 no. 1
5. pMAT037 no. 2
6. pMAT037 no. 3
7. AN-gdh-17 no. 6
8. AN-gdh-17 no. 8-2
9. AN-gdh-17 no. 15
10. AN-gdh-17 no. 17
11. 100bp marker

FIG.11

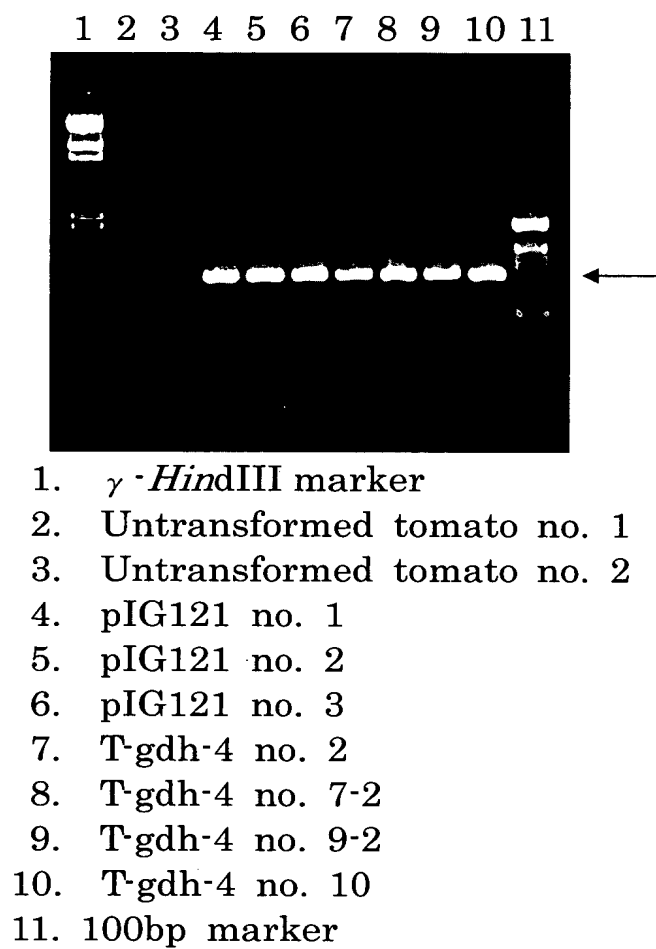
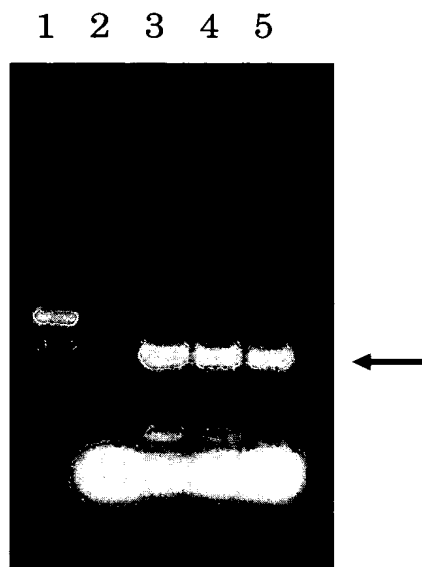
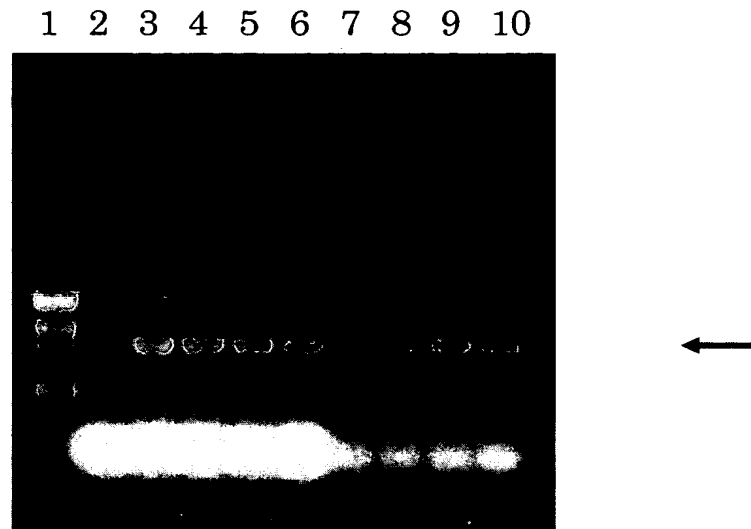


FIG.12



1. 100 bp marker
2. Untransformed tomato (leaf)
3. AN-gdh-17 no. 6 (leaf)
4. AN-gdh-17 no. 15 (leaf)
5. AN-gdh-17 no. 6 (fruit)

FIG.13



- |                            |                                |
|----------------------------|--------------------------------|
| 1. 100 bp marker           | 2. Untransformed-tomato (leaf) |
| 3. T-gdh-4 no. 2 (leaf)    | 4. T-gdh-4 no. 7-2 (leaf)      |
| 5. T-dgh-4 no. 9-2 (leaf)  | 6. T-gdh-4 no. 10 (leaf)       |
| 7. T-gdh-4 no. 2 (fruit)   | 8. T-gdh-4 no. 7-2 (fruit)     |
| 9. T-gdh-4 no. 9-2 (fruit) | 10. T-gdh-4 no. 10 (fruit)     |

FIG.14

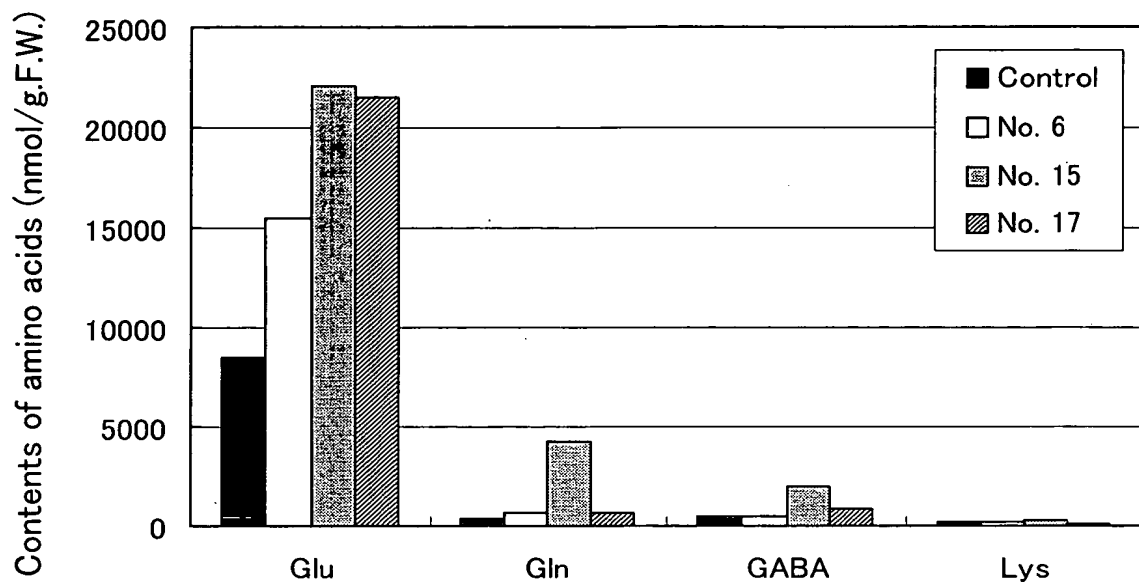


FIG.15

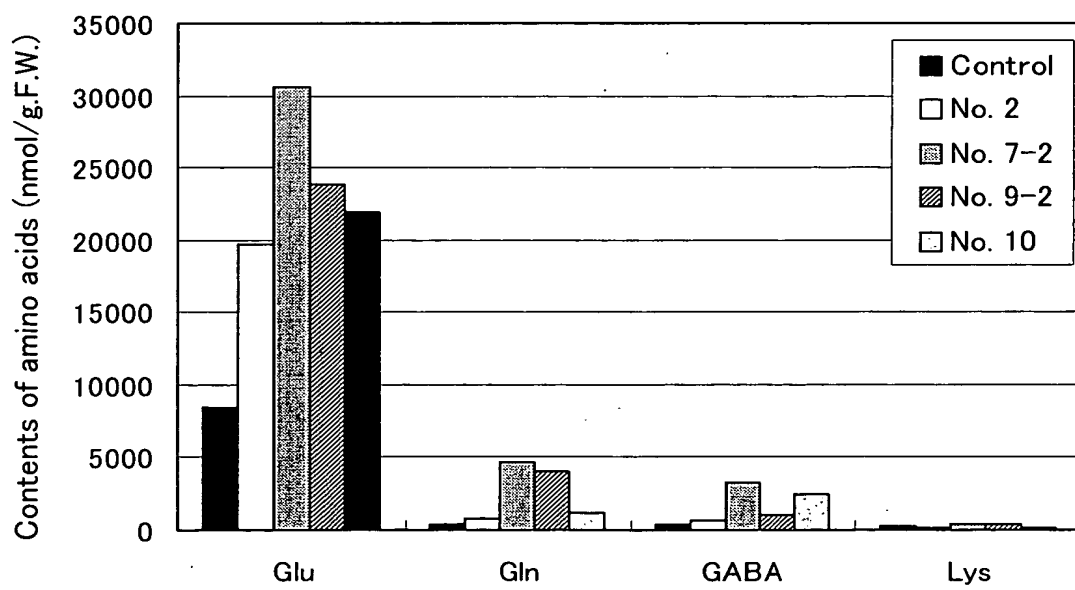
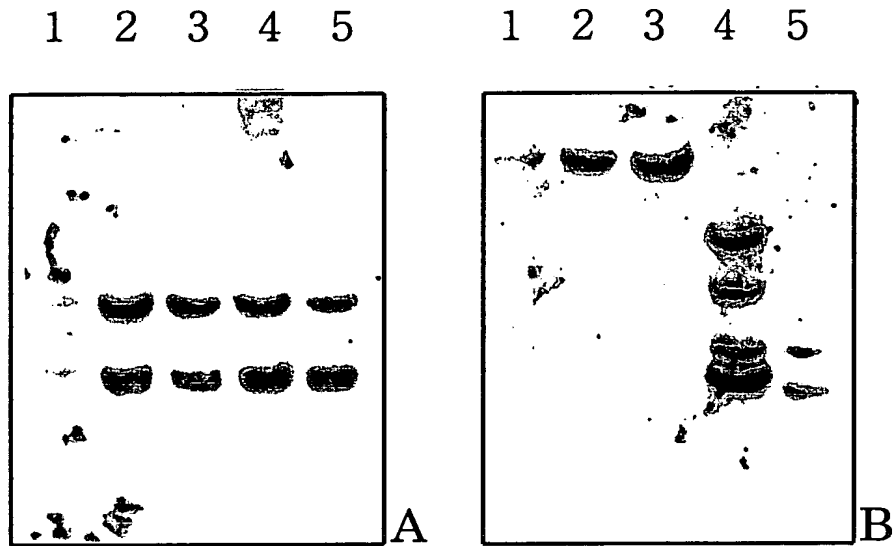


FIG.16



Lanes

1. Non-transgenic tomato
2. AN-gdh-17 No.1
3. AN-gdh-17 No.3
4. AN-gdh-17 No.15
5. AN-gdh-17 No.2.1

A. Total DNA(15  $\mu$  g) was digested with *Bam*HI and *Eco*RI.

B. Total DNA(15  $\mu$  g) was digested with *Xba*I.

FIG. 17

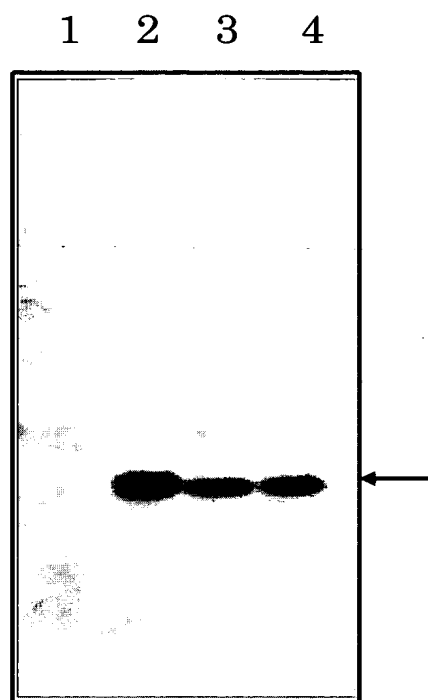
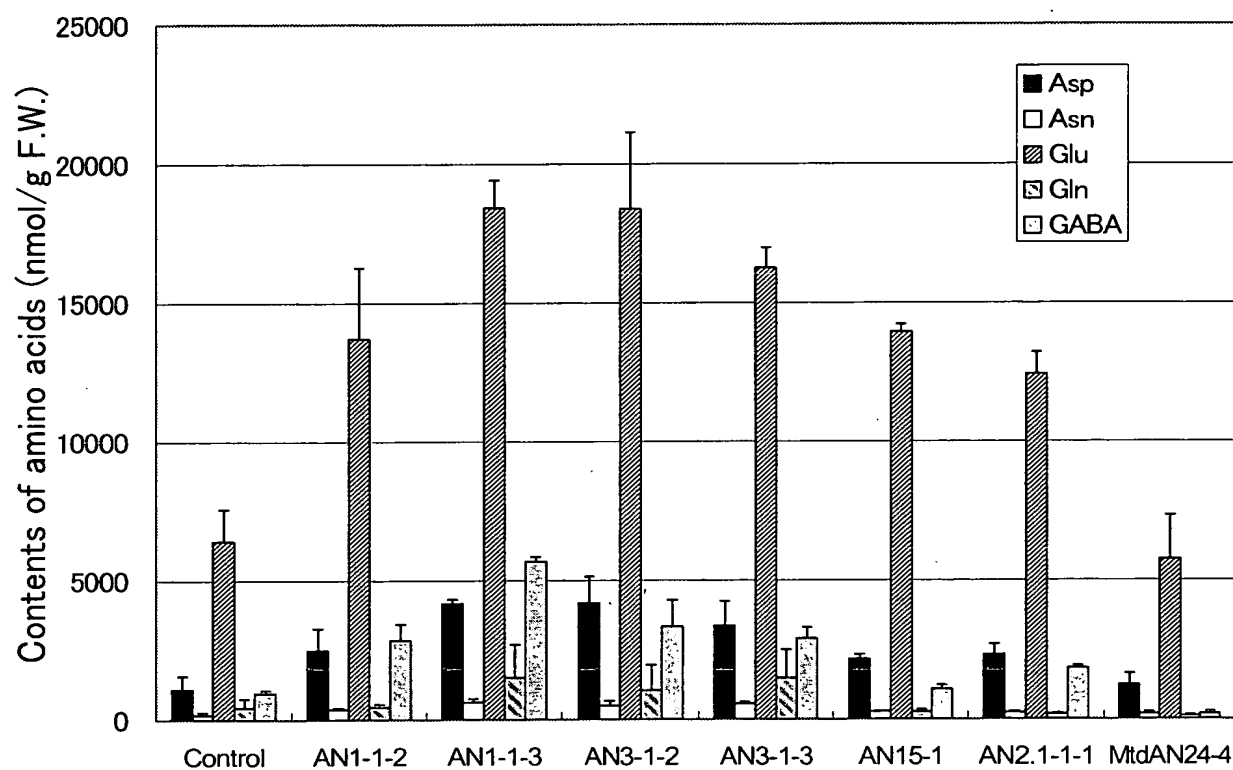




FIG.18

Amino acid contents in fruits of the progenies (T<sub>1</sub>) of  
AN-gdh-17 gene introduced tomato transformants



(*n*=3)

FIG.19

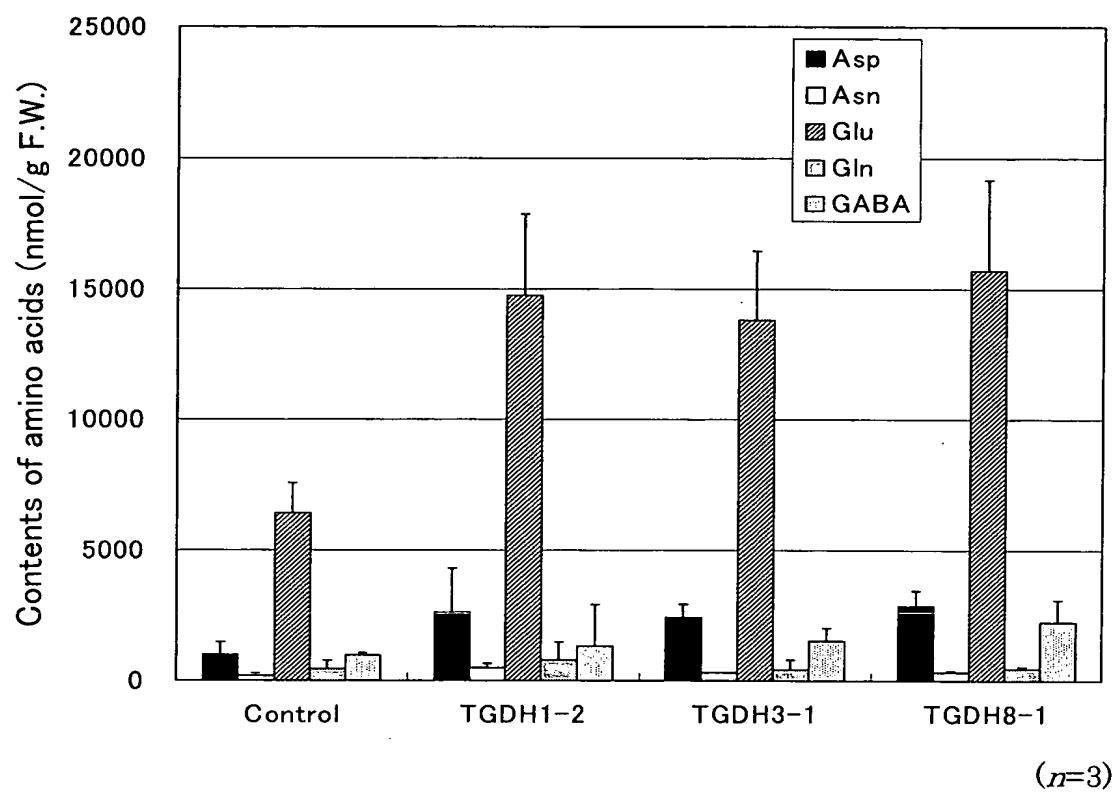


FIG.20

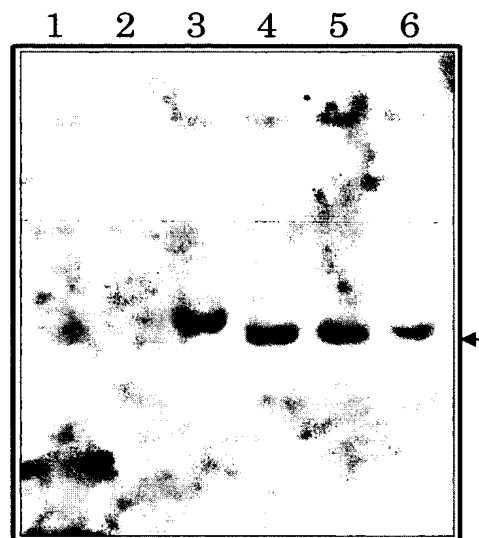


FIG.21

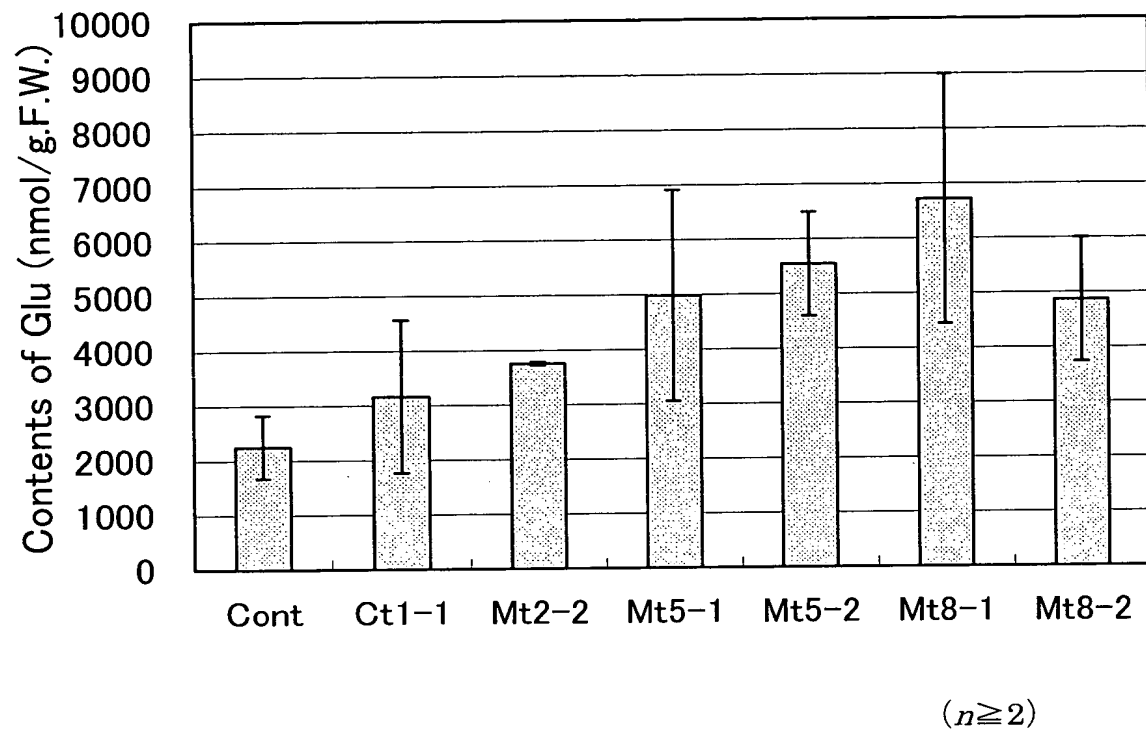


FIG.22

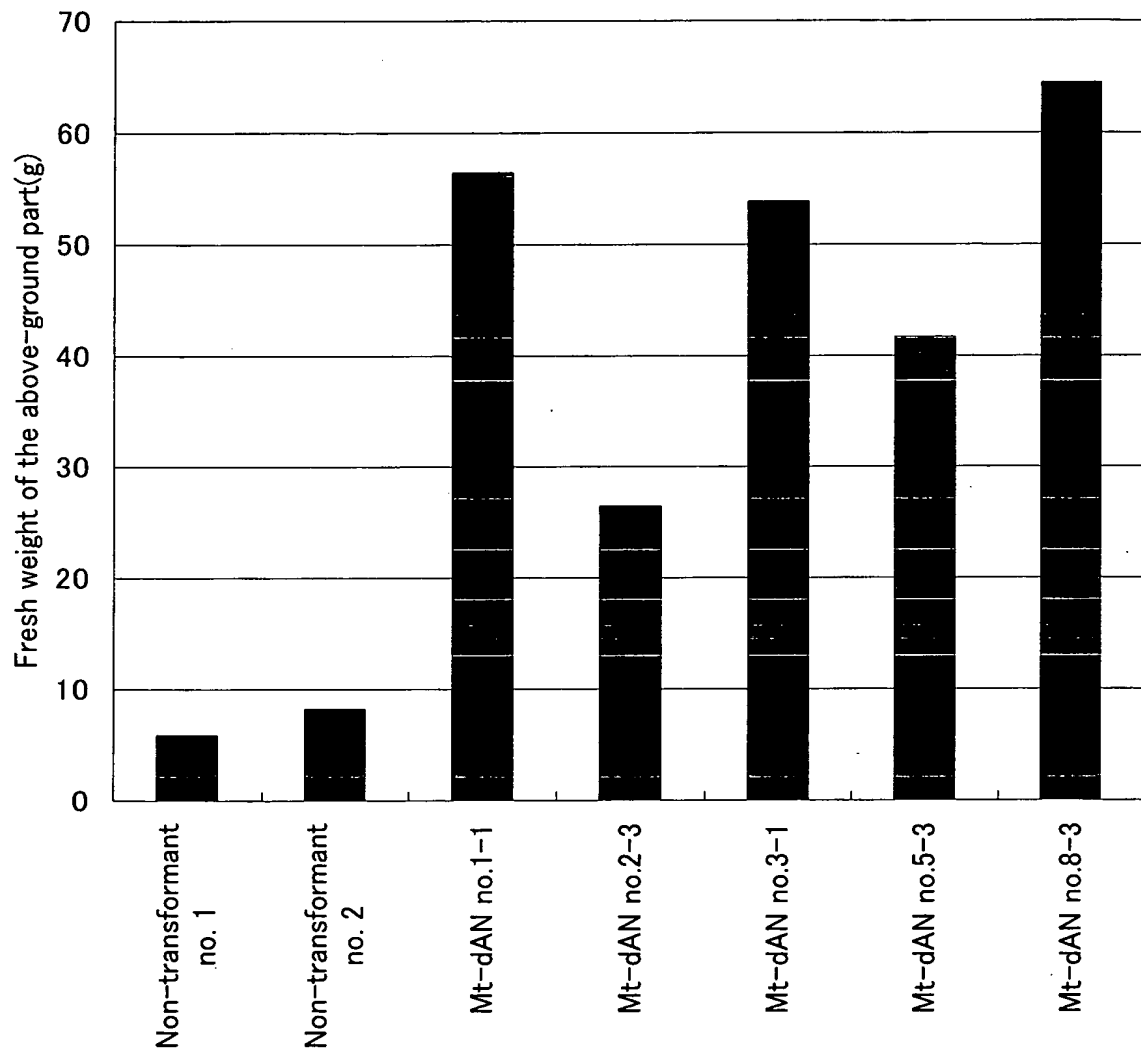


FIG.23

